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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/636,100	08/10/2000	Mary Dominique O'Neill	99W075	6344

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08/14/2002

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EXAMINER

SPEARS, ERIC J

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/636,100

Applicant(s)

O'NEILL ET AL.

Examiner

Eric J Spears

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-16 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 7/22/2002 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the documents referred to therein which have been lined through have not been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harootian, Jr. (5,303,373) in view of Goff et al. (4,896,965).

Regarding Claims 1 and 3, Harootian teaches a fiber optic bundle wherein the bundle tapers from one end of the bundle to the other, and wherein each individual fiber cross section changes in shape and size (Figs 1a, 2a, 2b; See Abstract, Col. 2, lines 37-54, Col. 4, lines 34-47). Harootian also teaches various combinations of shapes, such as a square on one end and a rectangle on the other (Col. 2, line 57 to Col. 3, line 2).

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Harootian also teaches the fiber bundle being used with imaging detector arrays 9 at either end (See Fig. 1; Col. 4, lines 17-34). Harootian does not teach the use of an optical train with the fiber bundle and detector. However, Goff teaches an optical train 18 used to direct light in to an optical fiber. Goff also teaches that the lens can be any lens suitable for "increasing light gathering efficiency known to those of ordinary skill in the art" (Col. 4, lines 22-24). Therefore, it would have been obvious to one of ordinary skill in the art to provide an optical train into a device as taught by Harootian, as the use of optical trains is well known in the art as taught by Goff, in order to increase the detecting efficiency of the fiber optic/imaging array device.

Regarding Claim 2, the modified device of Harootian does not teach a color filter. However, Goff teaches the use of color filters (28a..) in a fiber optic scene detection system (See Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art to provide a color filter in the modified device of Harootian, as the use of such filters is well known in the art as taught by Goff, in order to filter out light of frequencies which are not of interest or which may saturate the detector.

Further regarding Claim 3, the modified device of Harootian teaches the device wherein one fiber end has the shape of a square and the other end has the shape of a rectangle (Col. 2, line 57 to Col. 3, line 2). The modified device of Harootian does not explicitly teach one being the input shape and the other the output shape. However, it would have been obvious to one of ordinary skill in the art to provide the recited embodiment as an obvious design choice from among all of the possible embodiments, in order to best fit a particular application.

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Regarding Claim 4, the modified device of Harootian teaches embodiments, both, where the smaller bundle end is the output end and where the larger bundle end is the output end (See Fig. 1).

Regarding Claim 5, the modified device of Harootian does not such electronics. However, Harootian does teach the detector being a CCD detector, and it is well known in the art that CCDs are read with electronics to readout and process the images detected. Therefore, it would have been obvious to one of ordinary skill in the art to provide electronics such as those recited, as such electronics and their use are well known in the art, in order to implement the use of CCD imagers as the imager 9 as taught by Harootian.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harootian, Jr. (5,303,373) in view of Goff et al. (4,896,965), and further in view of McKinley (5,715,345).

Regarding Claim 6, the modified device of Harootian does not teach scene light energy mapped non-linearly onto the detector. However, McKinley teaches optical fiber remapping. Therefore, it would have been obvious to one of ordinary skill in the art to provide for non-linear mapping of scene light energy onto the detector array, as such remapping is well known in the art as shown by McKinley, in order to provide more uniform or other prescribed distribution of light.

Allowable Subject Matter

Claims 7, 15, and 16 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding Claim 7, the prior art fails to teach or reasonably suggest a sensor system for viewing light energy from a scene comprising, in addition to the other related features of the claim, two optical fiber bundles, with wavelength filters different from each other, which direct light onto different areas of a single detector, as recited in Claim 7, lines 1-5, 7-10, and 20-23.

Regarding Claim 15, the prior art fails to teach or reasonably suggest a sensor system for viewing light energy from a scene comprising, in addition to the other related features of the claim, two optical fiber bundles, with wavelength filters different from each other, which direct light onto different areas of a single detector, as recited in Claim 7, lines 1-6, 8-13, and 23-26.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 7/22/2002 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 9:00am to 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EJS
08/09/02


STEPHONE ALLEN
PRIMARY EXAMINER